



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Vogels et al.

Serial No.: 10/002,750

Filed: 11/15/2001

For: COMPLEMENTING CELL LINES

Confirmation No.: 5853

Examiner: To be assigned

Group Art Unit: 1648

Attorney Docket No.: 2183-5148US

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Date of Deposit with USPS: May 31, 2002

Person making Deposit: Orlena Howell

STATEMENT UNDER 37 C.F.R. §§ 1.821 THROUGH 1.825

Commissioner for Patents
Washington, D.C. 20231

Sir:

I, Tawni L. Wilhelm, an attorney registered to practice before the United States Patent & Trademark Office and attorney of record for this application, state that:

1. The enclosed paper copy of the substitute SEQUENCE LISTING, as well as the enclosed copy of the substitute SEQUENCE LISTING in computer readable form (CRF), are included herewith to comply with the requirements of 37 C.F.R. §§ 1.821 and/or 1.825 as requested by the Examiner.
2. The enclosed copy of the substitute SEQUENCE LISTING in computer readable form (CRF) is believed to be the same as the paper copy of the substitute SEQUENCE LISTING.

Serial No.: 10/002,750

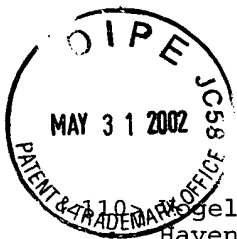
3. The SEQUENCE LISTINGS submitted herewith are believed to contain no "new matter" with regard to the referenced patent application.

Respectfully submitted,



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Salt Lake City, Utah 84110-2550
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Date: May 31, 2002
ACT/bv



SEQUENCE LISTING

110> Inventors, Ronald
Havenga, Menzo J.E.
Mehtali, Majid

<120> Complementing cell lines

<130> P58204US10

<140> 10/002,750

<141> 2001-11-15

<150> US 09/713,678

<151> 2000-11-15

<160> 50

<170> PatentIn Ver. 2.1

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<210> 45
<211> 180
<212> PRT
<213> adenoviridae

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<220>
<221> SITE
<222> (1) .. (180)
<223> /note="pCC536s E1B-21K sequence"

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<400> 45
Met Glu Ala Trp Glu Cys Leu Glu Asp Phe Ser Ala Val Arg Asn Leu
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Leu Glu Gln Ser Ser Asn Ser Thr Ser Trp Phe Trp Arg Phe Leu Trp
      20             25             30

Gly Ser Ser Gln Ala Lys Leu Val Cys Arg Ile Lys Glu Asp Tyr Lys
      35             40             45

Trp Glu Phe Glu Glu Leu Leu Lys Ser Cys Gly Glu Leu Phe Asp Ser
      50             55             60

Leu Asn Leu Gly His Gln Ala Leu Phe Gln Glu Lys Val Ile Lys Thr
      65             70             75             80

Leu Asp Phe Ser Thr Pro Gly Arg Ala Ala Ala Val Ala Phe Leu
      85             90             95

Ser Phe Ile Lys Asp Lys Trp Ser Glu Thr His Leu Ser Gly Gly
      100            105            110

Tyr Leu Leu Asp Phe Leu Ala Met His Leu Trp Arg Ala Val Val Arg
      115            120            125

His Lys Asn Arg Leu Leu Leu Leu Ser Ser Val Arg Pro Ala Ile Ile
      130            135            140

Pro Thr Glu Glu Gln Gln Gln Gln Glu Glu Ala Arg Arg Arg Arg
      145            150            155            160

Gln Glu Gln Ser Pro Trp Asn Pro Arg Ala Gly Leu Asp Pro Pro Val
      165            170            175

Glu Glu Ala Glu
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<210> 46
<211> 176
<212> PRT
<213> adenoviridae

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<220>
 <221> SITE
 <222> (1)..(176)
 <223> /note="Ad5. E1B-21K sequence"

<400> 46

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Met Glu Ala Trp Glu Cys Leu Glu Asp Phe Ser Ala Val Arg Asn Leu
 1           5           10           15
Leu Glu Gln Ser Ser Asn Ser Thr Ser Trp Phe Trp Arg Phe Leu Trp
           20           25           30
Gly Ser Ser Gln Ala Lys Leu Val Cys Arg Ile Lys Glu Asp Tyr Lys
           35           40           45
Trp Glu Phe Glu Glu Leu Leu Lys Ser Cys Gly Glu Leu Phe Asp Ser
           50           55           60
Leu Asn Leu Gly His Gln Ala Leu Phe Gln Glu Lys Val Ile Lys Thr
           65           70           75           80
Leu Asp Phe Ser Thr Pro Gly Arg Ala Ala Ala Val Ala Phe Leu
           85           90           95
Ser Phe Ile Lys Asp Lys Trp Ser Glu Glu Thr His Leu Ser Gly Gly
           100          105          110
Tyr Leu Leu Asp Phe Leu Ala Met His Leu Trp Arg Ala Val Val Arg
           115          120          125
His Lys Asn Arg Leu Leu Leu Leu Ser Ser Val Arg Pro Ala Ile Ile
           130          135          140
Pro Thr Glu Glu Gln Gln Gln Gln Glu Glu Ala Arg Arg Arg Arg
           145          150          155          160
Gln Glu Gln Ser Pro Trp Asn Pro Arg Ala Gly Leu Asp Pro Arg Glu
           165          170          175

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<210> 47
 <211> 180
 <212> PRT
 <213> adenoviridae

<220>
 <221> SITE
 <222> (1)..(180)
 <223> /note="Ad35.E1B-21K sequence"

<400> 47

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Met Glu Val Trp Ala Ile Leu Glu Asp Leu Arg Lys Thr Arg Gln Leu
 1           5           10           15
Leu Glu Ser Ala Ser Asp Gly Val Ser Gly Phe Trp Arg Phe Trp Phe
           20           25           30
Ala Ser Glu Leu Ala Arg Val Val Phe Arg Ile Lys Gln Asp Tyr Lys
           35           40           45
Gln Glu Phe Glu Lys Leu Leu Val Asp Cys Pro Gly Leu Phe Glu Ala
           50           55           60

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Leu Asn Leu Gly His Gln Val His Phe Lys Glu Lys Val Leu Ser Val
 65 70 75 80
 Leu Asp Phe Ser Thr Pro Gly Arg Thr Ala Ala Val Ala Phe Leu
 85 90 95
 Thr Phe Ile Leu Asp Lys Trp Ile Pro Gln Thr His Phe Ser Arg Gly
 100 105 110
 Tyr Val Leu Asp Phe Ile Ala Thr Ala Leu Trp Arg Thr Trp Lys Val
 115 120 125
 Arg Lys Met Arg Thr Ile Leu Gly Tyr Trp Pro Val Gln Pro Leu Gly
 130 135 140
 Val Ala Gly Ile Leu Arg His Pro Pro Val Met Pro Ala Val Leu Glu
 145 150 155 160
 Glu Glu Gln Gln Glu Asp Asn Pro Arg Ala Gly Leu Asp Pro Pro Val
 165 170 175
 Glu Glu Ala Glu
 180

<210> 48
 <211> 494
 <212> PRT
 <213> adenoviridae

<220>
 <221> SITE
 <222> (1)..(494)
 <223> /note="pCC536s E1B-55K sequence"

<400> 48
 Met Glu Arg Arg Asn Pro Ser Glu Arg Gly Val Pro Ala Gly Phe Ser
 1 5 10 15
 Gly His Ala Ser Val Glu Ser Gly Cys Glu Thr Gln Glu Ser Pro Ala
 20 25 30
 Thr Val Val Phe Arg Pro Pro Gly Asp Asn Thr Asp Gly Gly Ala Ala
 35 40 45
 Ala Ala Ala Gly Gly Ser Gln Ala Ala Ala Ala Gly Ala Glu Pro Met
 50 55 60
 Glu Pro Glu Ser Arg Pro Gly Pro Ser Ser Gly Gly Gly Gly Val Ala
 65 70 75 80
 Asp Leu Ser Pro Glu Leu Gln Arg Val Leu Thr Gly Ser Thr Ser Thr
 85 90 95
 Gly Arg Asp Arg Gly Val Lys Arg Glu Arg Ala Ser Ser Gly Thr Asp
 100 105 110
 Ala Arg Ser Glu Leu Ala Leu Ser Leu Met Ser Arg Arg Arg Pro Glu
 115 120 125
 Thr Ile Trp Trp His Glu Val Gln Lys Glu Gly Arg Asp Glu Val Ser
 130 135 140

Val Leu Gln Glu Lys Tyr Ser Leu Glu Gln Val Lys Thr Cys Trp Leu
 145 150 155 160
 Glu Pro Glu Asp Asp Trp Ala Val Ala Ile Lys Asn Tyr Ala Lys Ile
 165 170 175
 Ala Leu Arg Pro Asp Lys Gln Tyr Lys Ile Ser Arg Arg Ile Asn Ile
 180 185 190
 Arg Asn Ala Cys Tyr Ile Ser Gly Asn Gly Ala Glu Val Val Ile Asp
 195 200 205
 Thr Gln Asp Lys Thr Val Ile Arg Cys Cys Met Met Asp Met Trp Pro
 210 215 220
 Gly Val Val Gly Met Glu Ala Val Thr Phe Val Asn Val Lys Phe Arg
 225 230 235 240
 Gly Asp Gly Tyr Asn Gly Ile Val Phe Met Ala Asn Thr Lys Leu Ile
 245 250 255
 Leu His Gly Cys Ser Phe Phe Gly Phe Asn Asn Thr Cys Val Asp Ala
 260 265 270
 Trp Gly Gln Val Ser Val Arg Gly Cys Ser Phe Tyr Ala Cys Trp Ile
 275 280 285
 Ala Thr Ala Gly Arg Thr Lys Ser Gln Leu Ser Leu Lys Lys Cys Ile
 290 295 300
 Phe Gln Arg Cys Asn Leu Gly Ile Leu Asn Glu Gly Glu Ala Arg Val
 305 310 315 320
 Arg His Cys Ala Ser Thr Asp Thr Gly Cys Phe Ile Leu Ile Lys Gly
 325 330 335
 Asn Ala Ser Val Lys His Asn Met Ile Cys Gly Ala Ser Asp Glu Arg
 340 345 350
 Pro Tyr Gln Met Leu Thr Cys Ala Gly Gly His Cys Asn Met Leu Ala
 355 360 365
 Thr Val His Ile Val Ser His Gln Arg Lys Lys Trp Pro Val Phe Asp
 370 375 380
 His Asn Val Leu Thr Lys Cys Thr Met His Ala Gly Gly Arg Arg Gly
 385 390 395 400
 Met Phe Met Pro Tyr Gln Cys Asn Met Asn His Val Lys Val Leu Leu
 405 410 415
 Glu Pro Asp Ala Phe Ser Arg Met Ser Leu Thr Gly Ile Phe Asp Met
 420 425 430
 Asn Thr Gln Ile Trp Lys Ile Leu Arg Tyr Asp Asp Thr Arg Ser Arg
 435 440 445
 Val Arg Ala Cys Glu Cys Gly Gly Lys His Ala Arg Phe Gln Pro Val
 450 455 460
 Cys Val Asp Val Thr Glu Asp Leu Arg Pro Asp His Leu Val Ile Ala
 465 470 475 480

Arg Thr Gly Ala Glu Phe Gly Ser Ser Gly Glu Glu Thr Asp
 485 490

<210> 49
 <211> 494
 <212> PRT
 <213> adenoviridae

<220>
 <221> SITE
 <222> (1)..(494)
 <223> /note="Ad35. E1B-55K sequence"

<400> 49
 Met Asp Pro Ala Asp Ser Phe Gln Gln Gly Ile Arg Phe Gly Phe His
 1 5 10 15
 Ser His Ser Ile Val Glu Asn Met Glu Gly Ser Gln Asp Glu Asp Asn
 20 25 30
 Leu Arg Leu Leu Ala Ser Ala Ala Phe Gly Cys Ser Gly Asn Pro Glu
 35 40 45
 Ala Ser Thr Gly His Ala Ser Gly Ser Gly Gly Gly Thr Ala Arg Gly
 50 55 60
 Gln Pro Glu Ser Arg Pro Gly Pro Ser Ser Gly Gly Gly Gly Val Ala
 65 70 75 80
 Asp Leu Ser Pro Glu Leu Gln Arg Val Leu Thr Gly Ser Thr Ser Thr
 85 90 95
 Gly Arg Asp Arg Gly Val Lys Arg Glu Arg Ala Ser Ser Gly Thr Asp
 100 105 110
 Ala Arg Ser Glu Leu Ala Leu Ser Leu Met Ser Arg Arg Arg Pro Glu
 115 120 125
 Thr Ile Trp Trp His Glu Val Gln Lys Glu Gly Arg Asp Glu Val Ser
 130 135 140
 Val Leu Gln Glu Lys Tyr Ser Leu Glu Gln Val Lys Thr Cys Trp Leu
 145 150 155 160
 Glu Pro Glu Asp Asp Trp Ala Val Ala Ile Lys Asn Tyr Ala Lys Ile
 165 170 175
 Ala Leu Arg Pro Asp Lys Gln Tyr Lys Ile Ser Arg Arg Ile Asn Ile
 180 185 190
 Arg Asn Ala Cys Tyr Ile Ser Gly Asn Gly Ala Glu Val Val Ile Asp
 195 200 205
 Thr Gln Asp Lys Thr Val Ile Arg Cys Cys Met Met Asp Met Trp Pro
 210 215 220
 Gly Val Val Gly Met Glu Ala Val Thr Phe Val Asn Val Lys Phe Arg
 225 230 235 240
 Gly Asp Gly Tyr Asn Gly Ile Val Phe Met Ala Asn Thr Lys Leu Ile
 245 250 255

Leu His Gly Cys Ser Phe Phe Gly Phe Asn Asn Thr Cys Val Asp Ala
 260 265 270
 Trp Gly Gln Val Ser Val Arg Gly Cys Ser Phe Tyr Ala Cys Trp Ile
 275 280 285
 Ala Thr Ala Gly Arg Thr Lys Ser Gln Leu Ser Leu Lys Lys Cys Ile
 290 295 300
 Phe Gln Arg Cys Asn Leu Gly Ile Leu Asn Glu Gly Glu Ala Arg Val
 305 310 315 320
 Arg His Cys Ala Ser Thr Asp Thr Gly Cys Phe Ile Leu Ile Lys Gly
 325 330 335
 Asn Ala Ser Val Lys His Asn Met Ile Cys Gly Ala Ser Asp Glu Arg
 340 345 350
 Pro Tyr Gln Met Leu Thr Cys Ala Gly Gly His Cys Asn Met Leu Ala
 355 360 365
 Thr Val His Ile Val Ser His Gln Arg Lys Lys Trp Pro Val Phe Asp
 370 375 380
 His Asn Val Leu Thr Lys Cys Thr Met His Ala Gly Gly Arg Arg Gly
 385 390 395 400
 Met Phe Met Pro Tyr Gln Cys Asn Met Asn His Val Lys Val Leu Leu
 405 410 415
 Glu Pro Asp Ala Phe Ser Arg Met Ser Leu Thr Gly Ile Phe Asp Met
 420 425 430
 Asn Thr Gln Ile Trp Lys Ile Leu Arg Tyr Asp Asp Thr Arg Ser Arg
 435 440 445
 Val Arg Ala Cys Glu Cys Gly Gly Lys His Ala Arg Phe Gln Pro Val
 450 455 460
 Cys Val Asp Val Thr Glu Asp Leu Arg Pro Asp His Leu Val Ile Ala
 465 470 475 480
 Arg Thr Gly Ala Glu Phe Gly Ser Ser Gly Glu Glu Thr Asp
 485 490

<210> 50
 <211> 496
 <212> PRT
 <213> adenoviridae

<220>
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 <222> (1)..(496)
 <223> /note="Ad5. E1B-55K sequence"

<400> 50
 Met Glu Arg Arg Asn Pro Ser Glu Arg Gly Val Pro Ala Gly Phe Ser
 1 5 10 15
 Gly His Ala Ser Val Glu Ser Gly Cys Glu Thr Gln Glu Ser Pro Ala
 20 25 30

Thr Val Val Phe Arg Pro Pro Gly Asp Asn Thr Asp Gly Gly Ala Ala
 35 40 45
 Ala Ala Ala Gly Gly Ser Gln Ala Ala Ala Ala Gly Ala Glu Pro Met
 50 55 60
 Glu Pro Glu Ser Arg Pro Gly Pro Ser Gly Met Asn Val Val Gln Val
 65 70 75 80
 Ala Glu Leu Tyr Pro Glu Leu Arg Arg Ile Leu Thr Ile Thr Glu Asp
 85 90 95
 Gly Gln Gly Leu Lys Gly Val Lys Arg Glu Arg Gly Ala Cys Glu Ala
 100 105 110
 Thr Glu Glu Ala Arg Asn Leu Ala Phe Ser Leu Met Thr Arg His Arg
 115 120 125
 Pro Glu Cys Ile Thr Phe Gln Gln Ile Lys Asp Asn Cys Ala Asn Glu
 130 135 140
 Leu Asp Leu Leu Ala Gln Lys Tyr Ser Ile Glu Gln Leu Thr Thr Tyr
 145 150 155 160
 Trp Leu Gln Pro Gly Asp Asp Phe Glu Glu Ala Ile Arg Val Tyr Ala
 165 170 175
 Lys Val Ala Leu Arg Pro Asp Cys Lys Tyr Lys Ile Ser Lys Leu Val
 180 185 190
 Asn Ile Arg Asn Cys Cys Tyr Ile Ser Gly Asn Gly Ala Glu Val Glu
 195 200 205
 Ile Asp Thr Glu Asp Arg Val Ala Phe Arg Cys Ser Met Ile Asn Met
 210 215 220
 Trp Pro Gly Val Leu Gly Met Asp Gly Val Val Ile Met Asn Val Arg
 225 230 235 240
 Phe Thr Gly Pro Asn Phe Ser Gly Thr Val Phe Leu Ala Asn Thr Asn
 245 250 255
 Leu Ile Leu His Gly Val Ser Phe Tyr Gly Phe Asn Asn Thr Cys Val
 260 265 270
 Glu Ala Trp Thr Asp Val Arg Val Arg Gly Cys Ala Phe Tyr Cys Cys
 275 280 285
 Trp Lys Gly Val Val Cys Arg Pro Lys Ser Arg Ala Ser Ile Lys Lys
 290 295 300
 Cys Leu Phe Glu Arg Cys Thr Leu Gly Ile Leu Ser Glu Gly Asn Ser
 305 310 315 320
 Arg Val Arg His Asn Val Ala Ser Asp Cys Gly Cys Phe Met Leu Val
 325 330 335
 Lys Ser Val Ala Val Ile Lys His Asn Met Val Cys Gly Asn Cys Glu
 340 345 350
 Asp Arg Ala Ser Gln Met Leu Thr Cys Ser Asp Gly Asn Cys His Leu
 355 360 365

Leu Lys Thr Ile His Val Ala Ser His Ser Arg Lys Ala Trp Pro Val
 370 375 380
 Phe Glu His Asn Ile Leu Thr Arg Cys Ser Leu His Leu Gly Asn Arg
 385 390 395 400
 Arg Gly Val Phe Leu Pro Tyr Gln Cys Asn Leu Ser His Thr Lys Ile
 405 410 415
 Leu Leu Glu Pro Glu Ser Met Ser Lys Val Asn Leu Asn Gly Val Phe
 420 425 430
 Asp Met Thr Met Lys Ile Trp Lys Val Leu Arg Tyr Asp Glu Thr Arg
 435 440 445
 Thr Arg Cys Arg Pro Cys Glu Cys Gly Gly Lys His Ile Arg Asn Gln
 450 455 460
 Pro Val Met Leu Asp Val Thr Glu Glu Leu Arg Pro Asp His Leu Val
 465 470 475 480
 Leu Ala Cys Thr Arg Ala Glu Phe Gly Ser Ser Asp Glu Asp Thr Asp
 485 490 495